

## Chemical and Environmental Measurement Information

**Recra LabNet Philadelphia  
Analytical Report  
\*\*REVISION\*\***

**Client :** TNU-HANFORD B99-085  
**RFW# :** 9908L851  
**SDG/SAF #:** H0500/B99-085

**W.O. #:** 10985-001-001-9999-00  
**Date Received:** 08-24-99

**SEMIVOLATILE**

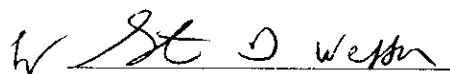
This narrative was corrected to add the TIC search for Tributylphosphate.

One (1) water sample was collected on 08-19-99.

The sample and its associated QC samples were extracted on 08-26-99 and analyzed according to criteria set forth in Recra OPs based on SW 846 Method 8270B for TCL Semivolatile target compounds on 09-13-99.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.
2. The required holding times for extraction and analysis were met.
3. Non-target compounds were detected in the sample.
4. All surrogate recoveries were within EPA QC limits.
5. One (1) of twenty-two (22) matrix spike recoveries was outside EPA QC limits.
6. All blank spike recoveries were within EPA QC limits.
7. The method blank contained the common laboratory contaminant Bis(2-Ethylhexyl)phthalate at a level greater than 5x the CRQL; however, no other compounds were detected in the samples. Re-extraction was not required. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
8. A spectral search was conducted for the compound Butylated Hydroxytoluene and Tributylphosphate; these compounds were not identified in the samples.

  
J. Michael Taylor  
Vice President  
Philadelphia Analytical Laboratory

01-27-00

Date

pef:gonup\data\bnatnu08851.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 10 pages, including page # 3A.

## GLOSSARY OF BNA DATA

### DATA QUALIFIERS

- U** = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.
- J** = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B** = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.
- E** = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- D** = Identifies all compounds identified in an analysis at a secondary dilution factor.
- I** = Interference.
- NQ** = Result qualitatively confirmed but not able to quantify.
- A** = Indicates that a TIC is a suspected aldol-condensation product.
- N** = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
- X** = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
- Y** = Additional qualifiers used as required are explained in the case narrative.



## GLOSSARY OF BNA DATA

### ABBREVIATIONS

<b>BS</b>	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions <i>and carried through all the steps in the method. Spike recoveries are reported.</i>
<b>BSD</b>	=	Indicates blank spike duplicate.
<b>MS</b>	=	Indicates matrix spike.
<b>MSD</b>	=	Indicates matrix spike duplicate.
<b>DL</b>	=	Suffix added to sample number to indicate that results are from a diluted analysis.
<b>NA</b>	=	Not Applicable.
<b>DF</b>	=	Dilution Factor.
<b>NR</b>	=	Not Required.
<b>SP, Z</b>	=	Indicates Spiked Compound.



# Recra LabNet Philadelphia Sample Discrepancy Report (SDR) SDR #:

99MS011

Initiator: C. Taylor  
Date: 9/28/99  
Client: NU-Hanford  
B99-085

RFW Batch: 99081851  
Samples: all  
Method: SW846/MCAWW/CLP/

Parameter: BNA  
Matrix: water/cont.  
Prep Batch: FILE1035-mb1

## 1. Reason for SDR

a. COC Discrepancy ☐ Tech Profile Error ☐ Client Request ☐ Sampler Error on C-O-C  
☐ Transcription Error ☐ Wrong Test Code ☐ Other \_\_\_\_\_

## b. General Discrepancy

☐ Missing Sample/Extract ☐ Container Broken ☐ Wrong Sample Pulled ☐ Label ID's Illegible  
☐ Hold Time Exceeded ☐ Insufficient Sample ☐ Preservation Wrong ☐ Received Past Hold  
☐ Improper Bottle Type ☐ Not Amenable to Analysis

Note: Verified by [Log-In] or [Prep Group] (circle) ...signature/date: \_\_\_\_\_

## c. QC Problem (Include all relevant specific results; attach data if necessary)

Blank contained 75X CRQL of bis (2 Ethyl Hexyl) phthalate (65 µg/L)

## 2. Known or Probable Causes(s)

lab contamination

## 3. Discussion and Proposed Action

Other Description:

☐ Re-log  
☐ Entire Batch  
☐ Following Samples: \_\_\_\_\_  
☐ Re-leach  
☐ Re-extract  
☐ Re-digest  
☐ Revise EDD  
☐ Change Test Code to \_\_\_\_\_  
☐ Place On/Take Off Hold (circle)

Sampler & QC were contained  
no targets except phthalate. Amounts  
detected were 10-59 µg/L  
report & narrative

## 4. Project Manager Instructions...signature/date:

☐ Concur with Proposed Action  
☐ Disagree with Proposed Action; See Instruction  
☐ Include in Case Narrative  
☐ Client Contacted:  
Date/Person \_\_\_\_\_  
☐ Add  
☐ Cancel

Philip J. H. 9/28/99

## 5. Final Action...signature/date:

Other Explanation:

☒ Verified re-[log][leach][extract][digest][analysis] (circle)  
☒ Included in Case Narrative  
☐ Hard Copy COC Revised  
☐ Electronic COC Revised  
☐ EDD Corrections Completed

C. Taylor 9/28/99

When Final Action has been recorded, forward original to QA Specialist for distribution and filing.

## Route Distribution of Completed SDR

☒ Initiator  
☒ Lab Manager: M. Taylor  
☒ Project Mgr: Stone/Carey/Schrenkel/Johnson  
☒ Section Mgr: Wesson/Daniels  
☒ QA (file): Racioppi  
☐ Data Management: Feldman  
☐ Sample Prep: Schnell/Doughty/Kauffman

## Route Distribution of Completed SDR

☐ Metals: Doughty  
☐ Inorganic: Perrone  
☐ GC/LC: Schnell  
☐ MS: LeMin/Taylor  
☐ Log-in: Toder  
☐ Admin: Soos  
☐ Other: \_\_\_\_\_

RFW Batch Number: 9908L851

Client: TNU-HANFORD B99-085

Work Order: 10985001001

Page: 1a

042

[illegible]

\*= Outside of EPA CLP QC limits.

Cust ID:

B0W679

B0W679

B0W679

SBLKBT

SBLKBT BS

RFW#:

001

001 MS

001 MSD

99LE1035-MB1

99LE1035-MB1

2-Chloronaphthalene	12 U	24 U	24 U	10 U	10 U
2-Nitroaniline	30 U	60 U	60 U	25 U	25 U
Dimethylphthalate	12 U	24 U	24 U	10 U	10 U
Acenaphthylene	12 U	24 U	24 U	10 U	10 U
2,6-Dinitrotoluene	12 U	24 U	24 U	10 U	10 U
3-Nitroaniline	30 U	60 U	60 U	25 U	25 U
Acenaphthene	12 U	92 %	86 %	10 U	72 %
2,4-Dinitrophenol	30 U	60 U	60 U	25 U	25 U
4-Nitrophenol	30 U	59 %	72 %	25 U	53 %
Dibenzofuran	12 U	24 U	24 U	10 U	10 U
2,4-Dinitrotoluene	12 U	94 %	100 * %	10 U	78 %
Diethylphthalate	12 U	2 J	24 U	10 U	10 U
4-Chlorophenyl-phenylether	12 U	24 U	24 U	10 U	10 U
Fluorene	12 U	24 U	24 U	10 U	10 U
4-Nitroaniline	30 U	60 U	60 U	25 U	25 U
4,6-Dinitro-2-methylphenol	30 U	60 U	60 U	25 U	25 U
N-Nitrosodiphenylamine (1)	12 U	24 U	24 U	10 U	10 U
4-Bromophenyl-phenylether	12 U	24 U	24 U	10 U	10 U
Hexachlorobenzene	12 U	24 U	24 U	10 U	10 U
Pentachlorophenol	30 U	74 %	82 %	25 U	62 %
Phenanthrene	12 U	24 U	24 U	10 U	10 U
Anthracene	12 U	24 U	24 U	10 U	10 U
Carbazole	12 U	24 U	24 U	10 U	10 U
Di-n-butylphthalate	12 U	24 U	24 U	10 U	10 U
Fluoranthene	12 U	24 U	24 U	10 U	10 U
Pyrene	12 U	86 %	77 %	10 U	74 %
Butylbenzylphthalate	12 U	24 U	24 U	10 U	10 U
3,3'-Dichlorobenzidine	12 U	24 U	24 U	10 U	10 U
Benzo(a)anthracene	12 U	24 U	24 U	10 U	10 U
Chrysene	12 U	24 U	24 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	51 B	59 B	10 JB	65	24 B
Di-n-octyl phthalate	12 U	24 U	24 U	10 U	10 U
Benzo(b)fluoranthene	12 U	24 U	24 U	10 U	10 U
Benzo(k)fluoranthene	12 U	24 U	24 U	10 U	10 U
Benzo(a)pyrene	12 U	24 U	24 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	12 U	24 U	24 U	10 U	10 U
Dibenz(a,h)anthracene	12 U	24 U	24 U	10 U	10 U
Benzo(g,h,i)perylene	12 U	24 U	24 U	10 U	10 U

(1) - Cannot be separated from Diphenylamine. \*= Outside of EPA CLP QC limits.

1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

BOW679

Lab Name: Regra.LabNet

Work Order: 10985001001

Client: TNU-HANFORD B99-085

Matrix: (soil/water) WATER

Lab Sample ID: 9908L851-001

Sample wt/vol: 820 (g/mL) ML

Lab File ID: A091312

Level: (low/med) LOW

Date Received: 08/24/99

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Extracted: 08/26/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 09/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 7.0

CONCENTRATION UNITS:

Number TICs found: 6

(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.16	2	J
2.	UNKNOWN	7.96	2	J
3.	UNKNOWN	8.23	4	J
4.	UNKNOWN	8.49	4	J
5.	UNKNOWN	8.59	5	J
6.	UNKNOWN	23.72	5	J

1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKBT

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-085

Matrix: (soil/water) WATER

Lab Sample ID: 99LE1035-MB1

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: A091307

Level: (low/med) LOW

Date Received: 08/26/99

% Moisture:        decanted: (Y/N)    

Date Extracted: 08/26/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 09/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 8

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.27	5	J
2.	UNKNOWN	7.96	10	J
3.	UNKNOWN	8.02	4	J
4.	UNKNOWN	8.23	6	J
5.	UNKNOWN	8.26	3	J
6.	UNKNOWN	8.50	6	J
7.	UNKNOWN	8.58	10	J
8.	UNKNOWN	8.66	2	J



Recra LabNet - Lionville Laboratory  
BNA ANALYTICAL DATA PACKAGE FOR  
TNU-HANFORD B99-085

DATE RECEIVED: 08/24/99

RFW LOT # :9908L851

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BOW679	001	W	99LE1035	08/19/99	08/26/99	09/13/99
BOW679	001 MS	W	99LE1035	08/19/99	08/26/99	09/13/99
BOW679	001 MSD	W	99LE1035	08/19/99	08/26/99	09/13/99

LAB QC:

SBLKBT	MB1	W	99LE1035	N/A	08/26/99	09/13/99
SBLKBT	MB1 BS	W	99LE1035	N/A	08/26/99	09/13/99

9908L851

## Custody Transfer Record/Lab Work Request

Page 1 of 1

ALL FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA  
LabNet

50

Client TNU-Hanford B99-085

Est. Final Proj. Sampling Date

Project # 10985-001-001-9999-00

Project Contact/Phone #

RECRA Project Manager ASQC Spec Del std TAT 30 dayDate Rec'd 8/24/99 Date Due 9/23/99

Account #

Refrigerator #

#/Type Container

Volume

Preservatives

ANALYSES  
REQUESTED

ORGANIC

INORG

VOA

BNA

Pest/  
PCB

Herb

Metal

CN

RECRA LabNet Use Only

MATRIX  
CODES:

S - Soil  
SE - Sediment  
SO - Solid  
SL - Sludge  
W - Water  
O - Oil  
A - Air  
DS - Drum  
Solids  
DL - Drum  
Liquids  
L - EP/TCLP  
Leachate  
WI - Wipe  
X - Other  
F - Fish

Lab  
ID

Client ID/Description

Matrix  
QC  
Chosen  
(✓)

MS MSD

Matrix

Date  
CollectedTime  
Collected

0024H

0025H

0500C

Metals

Inorg

Inorg

Inorg

Inorg

Inorg

Inorg

Inorg

Inorg

Inorg

Inorg

Run Matrix QC

## Special Instructions:

Lab # B99-085

8/27/99 added Be to metals per client

COMPOSITE  
WASTE

## DATE/REVISIONS:

Logged 8/26/99 - run from pres. bottle

Anal ① = ICCL, ICFL, ICNO2, ICNO3, ICPO4

→ ICSD4, ISFD, IPH - not logged

3. improperly preserved bottle

metals = As, Ba, Cd, Cr, Cu, Pb, Ti, Se,

5. Ag, U, Zn, Be

\* 6. 493579528602

## RECRA LabNet Use Only

Samples were:  
1) Shipped ☒ or  
Hand Delivered ☐

Airbill # \*

2) Ambient or Chilled3) Received in Good  
Condition ☒ or ☐4) Labels Indicate  
Properly Preserved ☒ or ☐5) Received Within  
Holding Times ☒ or ☐6) Received Within  
Holding Times ☒ or ☐

## COC Tape was:

1) Present on Outer  
Package ☒ or ☐2) Unbroken on Outer  
Package ☒ or ☐3) Present on Sample  
☒ or ☐4) Unbroken on  
Sample ☒ or ☐COC Record Present  
Upon Sample Rec't ☒ or ☐Cooler  
Temp 3.7 CDiscrepancies Between  
Samples Labels and  
COC Record? Y or ☒ N  
NOTES:

ICNO2, ICX3, ICPC4, IPH out

Relinquished  
byReceived  
by

Date

Time

FedEx

Jensen

8/24/99

0930

Relinquished  
byReceived  
by

Date

Time

REWRITTEN

ORIGINAL